IEEE P802.11  
Wireless LANs

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| Telecon Minutes for REVmd CRC- April 21-24 2020 | | | | |
| Date: 2020-04-23 | | | | |
| Author(s): | | | | |
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Abstract

Minutes for the 802.11md REVmd CRC Adhoc for the week of April 21

This set of Telecons replaces the face to face AdHoc that was cancelled due to COVID-19.

R0: April 21 Telecon Minutes

R1: April 22 Telecon Minutes added

R2: April 23 Telecon Minutes added

1. **IEEE 802.11md REVmd CRC Telecon Tuesday April 21, 2020 16:00-18:00 ET**
   1. **Called to order at 4:03pm** by the TG Chair Dorothy STANLEY (HPE)
   2. **Review Patent and Participation Policy**
      1. No Issues noted.
   3. **Attendance:** -please log with IMAT:
      1. About 17 attendees reported by WebEx

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | TGmd | 4/21 | Asterjadhi, Alfred | Qualcomm Incorporated |
|  | TGmd | 4/21 | Au, Kwok Shum | Huawei Technologies Co., Ltd |
|  | TGmd | 4/21 | Coffey, John | Realtek Semiconductor Corp. |
|  | TGmd | 4/21 | Ecclesine, Peter | Cisco Systems, Inc. |
|  | TGmd | 4/21 | Fischer, Matthew | Broadcom Corporation |
|  | TGmd | 4/21 | Goodall, David | Morse Micro |
|  | TGmd | 4/21 | Hervieu, Lili | Cable Technology Laboratories, Inc. |
|  | TGmd | 4/21 | Huang, Po-Kai | Intel Corporation |
|  | TGmd | 4/21 | Kim, Youhan | Qualcomm Incorporated |
|  | TGmd | 4/21 | Levy, Joseph | InterDigital, Inc. |
|  | TGmd | 4/21 | McCann, Stephen | BlackBerry |
|  | TGmd | 4/21 | noh, yujin | Newracom Inc. |
|  | TGmd | 4/21 | Qi, Emily | Intel Corporation |
|  | TGmd | 4/21 | RISON, Mark | Samsung Cambridge Solution Centre |
|  | TGmd | 4/21 | Rosdahl, Jon | Qualcomm Technologies, Inc. |
|  | TGmd | 4/21 | Stanley, Dorothy | Hewlett Packard Enterprise |

* + 1. Missing from IMAT: Ganesh VENKATESAN (Intel)
  1. **Review Agenda**: 11-20/535r5:

* + 1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0535-05-000m-2020-april-july-teleconference-agendas.docx>
    2. **The draft agenda for the teleconferences is below:**

1.       Call to order, attendance, and patent policy

a.       **Patent Policy: Ways to inform IEEE:**

1. Cause an LOA to be submitted to the IEEE-SA ([patcom@ieee.org](mailto:patcom@ieee.org)); or
2. Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible; or
3. Speak up now and respond to this Call for Potentially Essential Patents

If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance, please respond at this time by providing relevant information to the WG Chair

b.      Patent, Participation slides: See slides 5-12 in <https://mentor.ieee.org/802.11/dcn/20/11-20-0308-00-000m-2020-march-tgmd-agenda.pptx>

c. Adhoc meeting reminders:

April 21-23 Cambridge UK – Not in person; teleconference proposal is below.

2.       Editor report – Emily QI/Edward AU

3.       Comment resolution

a. 2020-04-21 Tuesday 4-6pm Eastern 2 hours (ad-hoc week)

i. Alfred ASTERJADHI – 11-20/446r0 <https://mentor.ieee.org/802.11/dcn/20/11-20-0446-00-000m-assorted-comment-resolutions.doc> x

ii. ~~Youhan Kim~~ – Yujin NOH CIDs 4022, 4023 PHY CIDs - <https://mentor.ieee.org/802.11/dcn/20/11-20-0621-00-000m-resolutions-to-cid4022-and-cid4023.docx>

iii. Matthew FISCHER presentations

a. 11-19/1564: <https://mentor.ieee.org/802.11/dcn/19/11-19-1564-01-000m-originator-block-ack-state.docx> ,

b. <https://mentor.ieee.org/802.11/dcn/19/11-19-1562-01-000m-all-sta-crs-mcs-negotiation.docx> ,

c. <https://mentor.ieee.org/802.11/dcn/19/11-19-1778-04-000m-india-ch-167-169-173.pptx>

d. <https://mentor.ieee.org/802.11/dcn/20/11-20-0516-00-000m-cr-mscs-and-cid4158.docx>

* + 1. Youhan noted that Yujin was presenting doc 11-20/0621 – agenda modified.
    2. The order of Matthew FISCHER Documents was changed.
    3. No objection to modified agenda
  1. **Editor Report:** EMILY QI
     1. We had 30 CIDs that were resolved last week.
     2. See doc 11-19/2156r7 for current comment spreadsheet.
     3. <https://mentor.ieee.org/802.11/dcn/19/11-19-2156-07-000m-revmd-sponsor-ballot-comments.xls>
  2. **Review doc 11-20/446r0** – Alfred ASTERJADHI (Qualcomm)
     1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0446-00-000m-assorted-comment-resolutions.docx>
     2. CID 4441 and 4443 (MAC)
        1. Review Comment
        2. Review submission discussion and proposed changes
        3. Discussion on the description of how a portion of a TXOP is done.
        4. Discussion on the use of a NAV-setting frame as a sync frame.
        5. Discussion on what the sync function requirements are in this case.
        6. Discussion on what frames can be used as a NAV-setting frame.
        7. Discussion on what normative text may need to be required.
        8. More work needed.
        9. Return on Wednesday April 29 telecon
     3. CID 4269 (MAC)
        1. Review comment
        2. Review proposed changes
        3. Proposed Resolution: Revised—

Agree in principle that there is no ProbeTimer. Proposed resolution accounts for the suggested change while noting that NDP Probe Request frames, are sent instead of Probe Request frames under this protocol, and that the timer used in this case is the ActiveScanningTimer.

REVmd editor to make the changes shown in 11-20/0446r0 <<https://mentor.ieee.org/802.11/dcn/20/11-20-0446-00-000m-assorted-comment-resolutions.docx>> under all headings that include CID 4269.

* + - 1. No Objection - Mark Ready for Motion
    1. CID 4166 (MAC)
       1. Review Comment
       2. Review Proposed changes
       3. Discussion on correcting some “that/which” and grammar issues.
       4. Update to r1
       5. Proposed Resolution: Revised—

Agree with the direction of the comment. A STA that does not support SST operation is not expected to receive or send a TWT element that has a nonzero value for the TWT channel field. Hence, proposed resolution is to explicitly specify that this is the case.

REVmd editor to make the changes shown in 11-20/0446r1 <<https://mentor.ieee.org/802.11/dcn/20/11-20-0446-01-000m-assorted-comment-resolutions.docx>> under all headings that include CID 4166.

* + - 1. No Objection – Mark ready for Motion
  1. **Review doc 11-20/621r0** Yujin NOH (Newracom)
     + 1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0621-00-000m-resolutions-to-cid4022-and-cid4023.docx>
       2. CID 4022 (PHY)
          1. Review comment.
          2. Review submission background.
          3. Review proposed changes
          4. Proposed resolution: Revised; Incorporate the changes indicated by “Proposed Resolution: CID 4022” in 11-20/621r0 <<https://mentor.ieee.org/802.11/dcn/20/11-20-0621-00-000m-resolutions-to-cid4022-and-cid4023.docx>> Note to commenter that L-SIG and VHT-SIG-A avoids similar issue by not use the variable N\_SR, but rather using “26” in Equations (21-25) and (21-28), respectively. Hence changing N\_SR to 26 in Equation (21-20) is more appropriate. Similar change should also be made for S1G in Equation (23-14).
          5. No Objection – Mark Ready for Motion
       3. CID 4023 (PHY)
          1. Review Comment
          2. Review submission background.
          3. Review proposed changes
          4. Proposed resolution: Revised; Incorporate the changes indicated by “Proposed Resolution: CID 4023” in 11-20/621r1 <<https://mentor.ieee.org/802.11/dcn/20/11-20-0621-01-000m-resolutions-to-cid4022-and-cid4023.docx>> . Note to commenter that L-SIG and VHT-SIG-A avoids similar issue by not use the variable N\_SR, but rather using “26” in Equations (21-25) and (21-28), respectively. Hence changing N\_SR to 26 in Equation (21-23) is more appropriate
          5. No objection – Mark Ready for Motion
  2. **Review doc 11-19/1564r3** - Matthew FISCHER (Broadcom)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-1564-03-000m-originator-block-ack-state.docx>
     2. CID 4155 (MAC)
        1. Review status of submission
        2. We have reviewed an earlier version of this submission before.
        3. Discussion on corresponding vs associated.
        4. Discussion on where the inserted paragraph should be placed. Should it be placed before or after the NOTE.
        5. Discussion on removing corresponding from new text. (d3.0 1072.60) in section 10.2 – Changed the 2nd instance of corresponding.
        6. Will upload the R4 -
        7. Proposed Resolution: REVISED - Make the changes as shown in 11-19/1564r4 (https://mentor.ieee.org/802.11/dcn/19/11-19-1564-04-000m-originator-block-ack-state.docx). This clarifies the text for block ack state processing, as requested.
        8. Request to update the date on the file header. – Request to have it reflect the date it was updated.
  3. **Review doc 11-19/1562r4** – Matthew Fischer
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-1562-04-000m-all-sta-crs-mcs-negotiation.docx>
     2. Update the date and version of the header.
     3. Note references were to D3.2
     4. CID 4156 (MAC)
        1. Review Comment
        2. Review changes made to submission since last presented.
        3. Discussion on index vs indices
        4. Discussion on the upper/lower case of Index – is it a field or not.
        5. Discussion on the impact of the change on the current devices.
        6. Discussion on the feature definition and if it exists in the standard today.
        7. Discussion on the source of the feature – from 11ah, and possibly extended afterward.
        8. To locate something in the table, you use the index and a difference to find the correct entry.
        9. Discussion on how to calculate the MCS computation.
        10. More discussion is needed will be assigned to a future Telecon
        11. Discussion on if this proposal could be better asserted in 11be rather than 11md. Difference of opinion.
  4. **Review doc 11-20/516r1** Matthew Fischer (Broadcom)
     1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0516-01-000m-cr-mscs-and-cid4158.docx>
     2. CID 4158, 4159 and 4160 (MAC)
        1. Review comments
        2. Review proposed changes for CID 4158.
        3. Proposed resolution for CID 4158 (MAC): Revise - TGmd editor to make changes as shown in 11-20/0516r1 that are marked with CID 4158 which generally agree with the commenter’s suggestion.
        4. No objection – Mark CID 4158 Ready for Motion
        5. If there is any review needed, do prior to May 15.
        6. Review the changes for next CID
        7. Proposed resolution for CID 4159 (MAC): Revise - TGmd editor to make changes as shown in 11-20/0516r1 that are marked with CID 4159 which generally agree with the commenter’s suggestion.
        8. Proposed resolution for CID 4160 (MAC): Reject – the commenter has not provided enough information for the TG to make changes that would satisfy the comment.
        9. Discussion on if the change is backward compatible.
        10. Discussion on what the process of the MSCS procedure does.
        11. Note that the case of (Re)-Association vs (Re)-association. Will take offline to address.
        12. Concern on how the feature was introduced, and discussion on if this change affects the feature or not.
        13. Discussion on how to determine the flow in the initial case vs moving from one AP to another one.
        14. Missing the MLME changes that may be needed.
        15. The tag for the changes should only list CID 4159 as CID 4160 is a rejected CID.
        16. Discussion on if this is a new feature vs optimization.
        17. Concern on number of recirculation ballots left and not enough time to evaluate this change.
     3. Out to time, review again on May 6th.
  5. Next call tomorrow 4-6pm ET
  6. Review agenda for tomorrow.
  7. Adjourned 6:03pm

1. **IEEE 802.11md REVmd CRC Telecon Wednesday April 22, 2020 16:00-18:00 ET**
   1. **Called to order at 4:03pm** by the TG Chair Dorothy STANLEY (HPE)
   2. **Review Patent and Participation Policy**
      1. No Issues noted.
   3. **Attendance:** -please log with IMAT:
      1. About 18 attendees reported by WebEx

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | TGmd | 4/22 | Au, Kwok Shum | Huawei Technologies Co., Ltd |
|  | TGmd | 4/22 | Bhandaru, Nehru | Broadcom Corporation |
|  | TGmd | 4/22 | Coffey, John | Realtek Semiconductor Corp. |
|  | TGmd | 4/22 | Derham, Thomas | Broadcom Corporation |
|  | TGmd | 4/22 | Goodall, David | Morse Micro |
|  | TGmd | 4/22 | Hamilton, Mark | Ruckus Wireless |
|  | TGmd | 4/22 | Harkins, Daniel | Aruba Networks, Inc. |
|  | TGmd | 4/22 | Levy, Joseph | InterDigital, Inc. |
|  | TGmd | 4/22 | Liu, Yong | Apple, Inc. |
|  | TGmd | 4/22 | Montemurro, Michael | BlackBerry |
|  | TGmd | 4/22 | Orr, Stephen | Cisco Systems, Inc. |
|  | TGmd | 4/22 | Qi, Emily | Intel Corporation |
|  | TGmd | 4/22 | RISON, Mark | Samsung Cambridge Solution Centre |
|  | TGmd | 4/22 | Rosdahl, Jon | Qualcomm Technologies, Inc. |
|  | TGmd | 4/22 | Smith, Graham | SR Technologies |
|  | TGmd | 4/22 | Stanley, Dorothy | Hewlett Packard Enterprise |

* + 1. Missing from IMAT:
       1. Paul Nikolich, Jinjing Jiang
  1. **Review Agenda**: 11-20/535r6:
     1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0535-06-000m-2020-april-july-teleconference-agendas.docx>
     2. **The draft agenda for the teleconferences is below:**

1.       Call to order, attendance, and patent policy

a.       **Patent Policy: Ways to inform IEEE:**

1. Cause an LOA to be submitted to the IEEE-SA ([patcom@ieee.org](mailto:patcom@ieee.org)); or
2. Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible; or
3. Speak up now and respond to this Call for Potentially Essential Patents

If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance, please respond at this time by providing relevant information to the WG Chair

b.      Patent, Participation slides: See slides 5-12 in <https://mentor.ieee.org/802.11/dcn/20/11-20-0308-00-000m-2020-march-tgmd-agenda.pptx>

c. Adhoc meeting reminders:

April 21-23 Cambridge UK – Not in person; teleconference proposal is below.

2.       Editor report – Emily QI/Edward AU

3.       Comment resolution

a. a) 2020-04-22 Wednesday 4-6pm Eastern 2 hours (ad-hoc week)

i. Emily QI – CID 4046 in <https://mentor.ieee.org/802.11/dcn/20/11-20-0247-02-000m-initial-sb-proposed-resolutions-for-bp-comments.doc>

ii. Edward AU –

a. CIDs 4005-4012 11-20-629

b. <https://mentor.ieee.org/802.11/dcn/20/11-20-0270-07-000m-resolutions-for-some-initial-sa-ballot-comments-on-11md-d3-0-part-ii.docx> and

c. <https://mentor.ieee.org/802.11/dcn/20/11-20-0371-02-000m-resolution-for-cmmg-mac-related-cids-4217-4218-and-4250.docx>

d. CID 4141 - 19/2163r14

<https://mentor.ieee.org/802.11/dcn/19/11-19-2163-14-000m-resolutions-for-some-initial-sa-ballot-comments-on-11md-d3-0.docx>

iii. Dan Harkins –

<https://mentor.ieee.org/802.11/dcn/20/11-20-0543-01-000m-privacy-for-password-identifiers.docx>

* + 1. Changes to the agenda were requested by Edward AU via email.
    2. Change order to allow Dan Harkins to go ahead of Edward AU was not made.
    3. No objection to modified agenda
  1. **Editor Report:** EMILY QI (Intel)
     1. One update –D3.3 should be ready by May 10, and should include the 47 CIDs approved in March and 46 CIDs approved in April
  2. **Review document 11-20/247r3** Emily QI (Intel)
     1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0247-03-000m-initial-sb-proposed-resolutions-for-bp-comments.doc>
     2. CID 4046 (PHY)
        1. Review Comment
        2. Review January discussion and email exchanges since last discussed.
        3. Review February exchanges and additional comments exchanged.
        4. Review proposed changes
        5. Proposed Resolution: REVISED (PHY: 2020-04-22 20:17:56Z). Add a paragraph at the end of end of 11.53 Beacon frame protection procedures:

“If OCVC capability is not present in a non-AP STA or if the current AP does not advertise OCVC capability, but beacon protection is enabled, the non-AP STA shall verify that the operating channel information in the first received Beacon frame that has been validated using BIP matches the current operating channel parameters. If there is a mismatch, the non-AP STA shall disassociate from the AP.”

* + 1. No objection – Mark Ready for Motion
  1. **Review doc 11-19/2163r14** – Edward AU (Huawei)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-2163-14-000m-resolutions-for-some-initial-sa-ballot-comments-on-11md-d3-0.docx>
     2. CID 4141 (EDITOR2)
        1. Review Comment
        2. Review history and response from IEEE-SA Editors
           1. The followings are the response from Catherine Berger:

This is fine as long as a copy of draft 1.3 of P802.11ah exists somewhere and you can obtain a copy. We would ask that you submit a copy of that draft with your standard so that if any user of your standard needed a copy, IEEE would be able to provide it. Also, 802.11ah/draft 1.3 with date of draft should be listed in the bibliography if it isn't already.

* + - 1. Proposed resolution: Revised; Incorporate the changes for CID 4141 in document 11-19/2163r14 <<https://mentor.ieee.org/802.11/dcn/19/11-19-2163-14-000m-resolutions-for-some-initial-sa-ballot-comments-on-11md-d3-0.docx>> which addresses the requested references.
      2. Discussion on possibly having the comment withdrawn rather than force a reference to D1.3 explicitly.
      3. The MatLab model signal field described in 802.11ah/D1.3 is specific and so that reference is described.
      4. Discussion on if the NOTE could be removed, or if it needs to be changed. If the NOTE is removed, then the reference would not be needed.
      5. Discussion on moving the NOTE to after the new SIG waveform generator tool paragraph.
      6. Updated Resolution: Revised; Incorporate the changes for CID 4141 in document 11-19/2163r15 <<https://mentor.ieee.org/802.11/dcn/19/11-19-2163-15-000m-resolutions-for-some-initial-sa-ballot-comments-on-11md-d3-0.docx>> which addresses the requested addition of S1G waveform generator tool.
      7. No objection - Mark Ready for Motion
  1. **Review doc 11-20/629r0** Edward AU (Huawei)
     1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0629-00-000m-proposed-resolutions-for-cids-related-to-the-date-of-publication-of-the-references-in-mib.docx>
     2. Review submission on changes for References:
     3. CIDs 4005, 4006, 4007, 4008, 4009, 4010, 4011, and 4012 are GEN comments and CIDs 4183, 4184, 4185, and 4186 are EDITOR2.
     4. Review the CIDs and the comments and proposed resolution history.
     5. Review proposed changes.
     6. Proposed Resolution: Revised; Incorporate the changes proposed in doc 11-20/629r1 <<https://mentor.ieee.org/802.11/dcn/20/11-20-0629-01-000m-proposed-resolutions-for-cids-related-to-the-date-of-publication-of-the-references-in-mib.docx>> which removes specific references in the MIB and corrects the deprecated sentences.
     7. Discussion – was the end of the sentence ned a plural “standard” as opposed to “standard”.
     8. Discussion on if the specific references are required for any of the MIB variables.
     9. Discussion on changing “the standards” to “IEEE Std. 802.11”.
     10. Missing a change to 3976.62 – added to changes.
     11. Summary removing the entire line of the references.
     12. For Deprecated MIBs, we have a sentence that indicates that this is deprecated as it has been removed from standard.
     13. Discussion what the sentence should be in the description field of the MIB.
     14. Discussion on how many occurrences of “removed from this standard” about 38.
     15. There were 9 instances that we are looking to have IEEE Std. 802.11.
     16. Preference of Edward was to keep the proposed changes as in R1 and have the 12 CIDs with the same Resolution. Note that the EDITOR2 CIDs were motioned in Motion #154, so a new motion to redo the resolution will be made.
     17. Updated proposed Resolution: REVISED (GEN: 2020-04-22 21:04:15Z) - Incorporate the changes proposed in doc 11-20/629r1 <<https://mentor.ieee.org/802.11/dcn/20/11-20-0629-01-000m-proposed-resolutions-for-cids-related-to-the-date-of-publication-of-the-references-in-mib.docx>> which removes specific references in the MIB and corrects the deprecated sentences.
     18. No objection – Mark Ready for Motion
  2. **Review doc 11-20/270r8** – Edward AU (Huawei)
     1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0270-08-000m-resolutions-for-some-initial-sa-ballot-comments-on-11md-d3-0-part-ii.docx>
     2. CID 4072 (EDITOR2)
        1. Review Comment
        2. Review proposed changes.
        3. Proposed Resolution: Revised; incorporate changes in 11-20/270r9 <<https://mentor.ieee.org/802.11/dcn/20/11-20-0270-09-000m-resolutions-for-some-initial-sa-ballot-comments-on-11md-d3-0-part-ii.docx>>
        4. No objection – Mark Ready for Motion
     3. CID 4101 (EDITOR2)
        1. Review comment
        2. Review proposed changes.
        3. There was a concern that some of the locations cited needed to be reviewed.
        4. Add this CID to an upcoming Telecon in after a weeks’ time.
     4. CID 4174 (EDITOR2)
        1. Review Comment
        2. Review proposed rejection.
        3. Proposed Resolution: Rejected. The requirement is to avoid using symbols not written in the 7-bit US-ASCII character set and it does not mean that abbreviated units are not allowable.
        4. No objection – Mark Ready for Motion
  3. **Review doc 11-20/371r2** – Edward AU (Huawei)
     1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0371-02-000m-resolution-for-cmmg-mac-related-cids-4217-4218-and-4250.docx>
     2. CID 4217 and 4218 (MAC)
        1. Review comment
        2. Review the submission discussion and proposed changes.
        3. Concern that this may be a significant technical change
           1. The TGaj folks have reviewed and proposed these changes and the DMG folks have also reviewed this set of changes.
        4. Proposed resolution: REVISED (MAC: 2020-04-22 21:18:36Z): Incorporate the changes as shown for CIDs 4217 and 4218 in 11-20/0371r2 (<https://mentor.ieee.org/802.11/dcn/20/11-20-0371-02-000m-resolution-for-cmmg-mac-related-cids-4217-4218-and-4250.docx>), which adds the behavior associated with the Antenna Pattern Reciprocity field.
        5. Discussion on wording in DMG vs the new wording and the length of the new sentence on page 2059.
        6. Question on the new paragraph being inserted “text in red” for page 2059, and then later in the submission some red text is just highlighting some words, but not all the words being inserted.
        7. A new revision will be created and posted to review later.
        8. A proposal to use on the large paragraph was suggested: A STA that sets to 1 the Antenna Pattern Reciprocity subfield in the CMMG Capabilities Info field in the CMMG Capabilities element it transmits and that receives a BRP-RX PPDU from a peer STA that also sets to 1 the Antenna Pattern Reciprocity subfield in the CMMG Capabilities Info field in the CMMG Capabilities element it transmits shall use the same AWV that was configured with the BRP-RX PPDU in subsequent transmissions and receptions with the peer STA during the DTI. This allows STAs that use reciprocity to shorten the beamforming training time.
        9. ACTION ITEM: Edward AU - After the revision is posted to Mentor, announce to the reflector and allow the CDMG and DMG folks to review.
        10. Mark both CIDs ready for motion
        11. Proposed Resolution: REVISED (MAC: 2020-04-22 21:18:36Z): Incorporate the changes as shown in 11-20/0371r3 (https://mentor.ieee.org/802.11/dcn/20/11-20-0371-03-000m-resolution-for-cmmg-mac-related-cids-4217-4218-and-4250.docx), which adds the behavior associated with the Antenna Pattern Reciprocity field, and also fixes a number of related issues.
        12. No objection – Mark Ready for Motion
  4. **Review doc 11-20/543r2** Dan HARKINS (HPE)
     1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0543-02-000m-privacy-for-password-identifiers.docx>
     2. CID 4731 (PHY)
        1. Review Comment and background.
        2. Review proposed changes.
        3. It was noted that the proposal had the following properties:
* A passive attacker cannot determine a protected identity;
* Identifiers are protected against active attack insofar as SAE is resistant to active attack;
* A passive attacker cannot connect protected identities across SAE protocol runs to generate PII;
* Password identifiers can be arbitrarily padded to foil passive traffic analysis;
* Protected identities are secure under a birthday bound of 232 encryptions;
* An attacker cannot tamper with or substitute identifiers to connect distinct runs of SAE;
* An AP needs to only manage a single credential;
* APs in an ESS can share the single credential (in an out of band, out of scope manner);
* APs can use the same credential to protect all groups in the ESS that use password identifiers;
* Identities are protected against members of the same group;
* The interface for password identifiers on a STA is unchanged;
* The overhead is minimal—25 octets plus padding;
* Uses symmetric cryptography for speed and DOS resistance;
* Protected password identifiers in a mesh is supported.
  + - 1. Discussion on value of proposal.
      2. The Use of this service for a STA is in the control of the STA, and not mandated by the AP.
      3. Discussion on the SAE Identifier usage.
      4. Discussion on what the STA and the AP functionality requirements may be.
      5. Discussion on the options that the AP and STA should use.
      6. Discussion on what happens if the key is compromised.
      7. More discussion will occur.
      8. Add to agenda for Wednesday May 6th.
  1. Next call is tomorrow.
     1. Checked with Sean COFFEY – he is making progress, and had 5 comments ready, but one is still not ready. – see Doc 11-20/0645r0.
     2. See doc 11-20/639 for the list of Mark RISON’s CIDs being reviewed.
  2. Agenda R7 to be posted shortly.
  3. Adjourned 18:03pm ET.

1. **IEEE 802.11md REVmd CRC Telecon Thursday April 23, 2020 16:00-18:00 ET**
   1. **Called to order at 4:03pm** by the TG Chair Dorothy STANLEY (HPE)
   2. **Review Patent and Participation Policy**
      1. No Issues noted.
   3. **Attendance:** -please log with IMAT:
      1. About 16 attendees reported by WebEx

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | TGmd | 4/23 | Au, Kwok Shum | Huawei Technologies Co., Ltd |
|  | TGmd | 4/23 | Coffey, John | Realtek Semiconductor Corp. |
|  | TGmd | 4/23 | Derham, Thomas | Broadcom Corporation |
|  | TGmd | 4/23 | Goodall, David | Morse Micro |
|  | TGmd | 4/23 | Hamilton, Mark | Ruckus Wireless |
|  | TGmd | 4/23 | Harkins, Daniel | Aruba Networks, Inc. |
|  | TGmd | 4/23 | Levy, Joseph | InterDigital, Inc. |
|  | TGmd | 4/23 | Montemurro, Michael | BlackBerry |
|  | TGmd | 4/23 | Qi, Emily | Intel Corporation |
|  | TGmd | 4/23 | RISON, Mark | Samsung Cambridge Solution Centre |
|  | TGmd | 4/23 | Rosdahl, Jon | Qualcomm Technologies, Inc. |
|  | TGmd | 4/23 | Smith, Graham | SR Technologies |
|  | TGmd | 4/23 | Stanley, Dorothy | Hewlett Packard Enterprise |

* + 1. Missing from IMAT:
  1. **Review Agenda**: 11-20/535r7:
     1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0535-07-000m-2020-april-july-teleconference-agendas.docx>
     2. **The draft agenda for the teleconferences is below:**

1.       Call to order, attendance, and patent policy

a.       **Patent Policy: Ways to inform IEEE:**

1. Cause an LOA to be submitted to the IEEE-SA ([patcom@ieee.org](mailto:patcom@ieee.org)); or
2. Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible; or
3. Speak up now and respond to this Call for Potentially Essential Patents

If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance, please respond at this time by providing relevant information to the WG Chair

b.      Patent, Participation slides: See slides 5-12 in <https://mentor.ieee.org/802.11/dcn/20/11-20-0308-00-000m-2020-march-tgmd-agenda.pptx>

c. Adhoc meeting reminders:

April 21-23 Cambridge UK – Not in person; teleconference proposal is below.

2.       Editor report – Emily QI/Edward AU

3.       Comment resolution

a) 2020-04-23 Thursday 4-6pm Eastern 2 hours (ad-hoc week)i. Alfred Asterjadhi– CIDs 4441, 4443 11-20-0446ii. Sean COFFEY – CIDs 4232, 4233, 4448, 4459, 4548 in https://mentor.ieee.org/802.11/dcn/20/11-20-0645-00-000m-revmd-sb1-phy-cr-cids-4232-4233-4448-4459-4548.docx , CID 4229 TBDiii. Jon ROSDAHL – GEN CIDs a. https://mentor.ieee.org/802.11/dcn/20/11-20-0647-00-000m-sa-ballot-1-cid-4389-and-4390-two-staaddress-parameter.docxb. https://mentor.ieee.org/802.11/dcn/20/11-20-0648-00-000m-sa-ballot-1-cids-4742-4741-4740-resultcode-valid-value-format.docx iv. Mark RISON - CIDs, see https://mentor.ieee.org/802.11/dcn/20/11-20-0639-00-000m-selected-rison-discussion-cids.xlsx

* + 1. Changes to the agenda were discussed as Alfred was not on the call, so Sean will present first.
    2. Change order made
    3. No objection to agenda as presented. – See R8.
  1. **Editor Report:** EMILY QI (Intel)
     1. **None**
  2. **Review doc 11-20/645r0 – Sean Coffey (Realtek)**
     1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0645-00-000m-revmd-sb1-phy-cr-cids-4232-4233-4448-4459-4548.docx>
     2. CID 4232 and 4233 (PHY)
        1. Review comment
        2. Review submission discussion:

Comment 4232 is identical to comment 4233, except that the proposed resolution is truncated after “(“.” at the end of the fifteenth line in the table above. It seems there was some sort of glitch, and that really there is only one comment that was submitted twice.

The clause number given is incorrect: it should be 17.3.10.6.

The cited text in Clause 17 has been stable for a very long time: the basic structure goes back to 802.11a, which was approved in September 1999, and the only changes since then were the modifications for 10 MHz and 5 MHz channels added by 802.11j, which was approved in September 2004. Even when subsequent amendments that defined PHYs for the 5 GHz band added variations on the Clause 17 definition, no change was made to Clause 17 itself in the amendments or in subsequent rollups.

As far as Clause 17 is concerned, the meaning would be the same with or without the proposed change. It seems that any conceivable gain in making the change (which would, at best, be vanishingly small) is more than offset by setting a precedent of reopening long-settled text. The proposed resolution is therefore that we should leave well enough alone.

In the other cited clauses, the extra information provided for a prospective implementer seems to be enough to offset any concerns about avoiding duplication. For these sections, too, there is little danger that drafters of future amendments will find it difficult to maintain the text.

* + - 1. Proposed Resolution: REJECTED. In each section cited by the commenter’s proposed resolution, the current text is not incorrect, and it violates no style requirement.
      2. Discussion the Comment is about duplication rather than noting style or incorrect text.
      3. Discussion on the value of not changing the text as the implementation is sufficient as is.
      4. Discussion on the reasons for not changing clause 15, 16, or 17. Avoid precedence to get in the habit of changing everything, just to change everywhere.
      5. Straw poll: Accepted vs Rejected
         1. Results: 8-1-3
      6. Move in the direction of the rejection.
      7. Need to expand the rejection reason.
      8. Updated Resolution: Rejected; The cited text in Clause 17 has been stable for a very long time: the basic structure goes back to 802.11a, which was approved in September 1999, and the only changes since then were the modifications for 10 MHz and 5 MHz channels added by 802.11j, which was approved in September 2004. Even when subsequent amendments that defined PHYs for the 5 GHz band added variations on the Clause 17 definition, no change was made to Clause 17 itself in the amendments or in subsequent rollups. In each section cited by the commenter’s proposed resolution, the current text is not incorrect and it violates no style requirement.In the other cited clauses, the extra information provided for a prospective implementer seems to be enough to offset any concerns about avoiding duplication. For these sections, too, there is little danger that drafters of future amendments will find it difficult to maintain the text. In each section cited by the commenter’s proposed resolution, the current text is not incorrect and it violates no style requirement.
      9. Mark Ready for Motion
    1. CID 4448 (PHY)
       1. Review the comment
       2. Review the submission discussion.
       3. Proposed Resolution: REVISED. At 920.22, 920.41, 1380.17, 1525.5 and 1525.8, change “output of the antenna connector” to “the antenna connector (input to the antenna)”.
       4. Discussion, on Why not use the definition as is for “Antenna Connector”?
       5. An Alternate resolution was proposed: Revised; At 920.22, 920.41, 1380.17, 1525.5 and 1525.8, change “at the output of the antenna connector” to “at the antenna connector”.
       6. Discussion on the need to identify if this is Transmit vs Receive antenna connector (or multiple Transmit antenna).
       7. We have an improved resolution, after discussion let’s proceed with the alternate resolution.
       8. Updated Proposed Resolution: REVISED (PHY: 2020-04-23 20:42:34Z) - At 920.22, 920.41, 1380.17, 1525.5 and 1525.8, change “at the output of the antenna connector” to “at the antenna connector”.
       9. Mark Ready for Motion.
    2. CID 4459 (PHY)
       1. Review comment
       2. Review submission discussion:
       3. Proposed Resolution: REVISED (PHY: 2020-04-23 20:48:26Z) -. At 3317.43, after “The static TVHT PHY characteristics, provided through the PLME-CHARACTERISTICS service primitive, shall be as shown in Table 19-25 (HT PHY characteristics)” add “unless otherwise listed in Table 22-25 (TVHT PHY characteristics)”.
       4. No discussion
       5. No objection – Mark Ready for Motion
    3. CID 4548 (PHY)
       1. Review comment
       2. Review proposed changes
       3. Proposed resolution - REVISED (PHY: 2020-04-23 20:52:02Z) -. At 2974.50, change “For ERP-OFDM modes, an ERP packet is followed by a period of no transmission with a duration of aSignalExtension called the signal extension” to “For ERP-OFDM modes, an ERP PPDU is terminated by a period of no transmission with a duration of aSignalExtension called the signal extension”.

At 2998.14, change "Transmissions of frames with the TXVECTOR parameter NO\_SIG\_EXTN equal to false are followed by a period of no transmission for a duration of aSignalExtension." To "Transmissions of frames with the TXVECTOR parameter NO\_SIG\_EXTN equal to false are terminated by a period of no transmission for a duration of aSignalExtension."

Resolved in the direction proposed by the commenter.

* + - 1. No objection – Mark Ready for Motion.
    1. Still one CID for Sean left to process.
  1. **Review CID 4441 and 4443** Alfred
     1. He thought it was next week. Will add to next week’s agenda.
  2. **GEN CIDs**
     1. **Presentation of 11-20/264r0** - Jon ROSDAHL (Qualcomm)
        1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0648-00-000m-sa-ballot-1-cids-4742-4741-4740-resultcode-valid-value-format.docx>
        2. In the document, “ANTI\_CLOGGING, TOKEN\_REQUIRED” should be “ANTI\_CLOGGING\_TOKEN\_REQUIRED”.
        3. The extraneous text was moved to the “Description” column.
        4. On page 5, the “ENABLEMENT Denied due to restriction form GDB”. It should be text moved be the enumerated value or just text?
           1. The assumption was that the enumerated result should be used in the description.
           2. The text added to the description should be a full sentence. “ENABLEMENT\_DENIED is used to indicate denial due to restrictions from GDD.”
        5. A revision of the document will be posted.
        6. CID 4740, 4741, 4742 (GEN)
           1. Proposed Resolution: REVISED (GEN: 2020-04-23 21:13:24Z) - Make the following changes to ResultCode - Valid Range cell at the following locations:

(page 348 20-27) “SUCCESS, REFUSED, ANTI\_CLOGGING\_TOKEN\_REQUIRED, FINITE\_CYCLIC\_GROUP\_ NOT\_SUPPORTED, AUTHENTICATION\_REJECTED, AUTH\_FAILURE\_TIMEOUT”

(page 351 Lines 32-41). “SUCCESS, REFUSED, ANTI\_CLOGGING\_TOKEN\_REQUIRED, FINITE\_CYCLIC\_GROUP\_NOT\_SUPPORTED, AUTHENTICATION\_REJECTED

(Page 389, Line 38) Add Missing “,” after REFUSED\_BASIC\_RATES\_MISMATCH.

(Page 414 Lines 6-7; Page 418 Lines 11-12; Page 465 Line 14-18; Page 460 Lines 8-9) Change “UNSPECIFIED FAILURE” to “UNSPECIFIED\_FAILURE”.

(Page 668 line 35-36 and Page 669 Line 12-13) Change BFTIMEOUT to “BF\_TIMEOUT”

(Page 683 Lines 22-25 and Page 685 Line 19-22) Change to Valid Range cell to “SUCCESS, REFUSED, ENABLEMENT\_DENIED” and Add to Description cell: “ENABLEMENT\_DENIED is used to indicate denial due to restrictions from GDD.”

* + - * 1. No objection – Mark Ready for motion
    1. **Presentation of doc 11-20/647r0** - Jon ROSDAHL (Qualcomm)
       1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0647-00-000m-sa-ballot-1-cid-4389-and-4390-two-staaddress-parameter.docx>
       2. CID 4389 and 4390 (GEN)
          1. The text of the solution came from DMG experts.
          2. For non-DMG, we want to make sure the interface works for non-DMG. We need to understand what the interface looks like for these cases.
          3. A TS can be deleted by either peer.
          4. The comments should be split to refer to an HC and PCP separately.
          5. STAAddress2 only applies to a PCP. The second DELTS only refers to a DMG STA.
          6. Separate HC and PCP behavior for STAAddress1.
          7. The text updates are captured in 11-20/647r1.
          8. More offline work needed to resolve this comment.
  1. **Review doc 11-20/0639 Mark RISON CIDs** – Mark RISON (Samsung)
     1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0639-00-000m-selected-rison-discussion-cids.xlsx>
     2. CID 444 (MAC)
        1. This CID has a submission from Graham SMITH – 11-20/367r2
        2. <https://mentor.ieee.org/802.11/dcn/20/11-20-0367-02-000m-resolution-of-cid-4444.docx>
        3. This will be added to an upcoming agenda item.
        4. Schedule for May1st Telecon.
     3. CID 4451 (MAC)
        1. Still being worked on.
     4. CID 4471 (MAC)
        1. Review comment
        2. Suggestion is to just accept but may need more review.
        3. Assign to Sean Coffey – for further work.
     5. CID 4479 and 4480 (MAC)
        1. Both CIDs should be the same resolution.
        2. Both should be assigned to Chris HANSEN
     6. CID 4486 (MAC)
        1. Assigned to Chris HANSEN already
        2. Need agenda time for the 3 CIDs.
     7. CID 4494 (MAC)
        1. Assign to Menzo
        2. This is similar to CID 4495 (MAC) which is already assigned to Menzo.
     8. CID 4505 (MAC)
        1. Review comment
        2. Reference to 9.6.22.4 and 9.6.29.3 as having Operating Mode Notification Frames.
        3. Look at the possible changes.
        4. More work on this to be done by Mark RISON.
     9. CID 4508 (MAC)
        1. Review comment
        2. The non-AP STA is only tracking the “used time”.
        3. Proposed Resolution; Accept.
        4. No objection – Mark Ready for Motion
     10. CID 4510 (MAC)
         1. Currently assigned to Mark RISON
         2. More work needed.
     11. CID 4512 (MAC)
         1. Review Comment
         2. Review P1176.10 – delete the first sentence in Encoding cell.
         3. Review P1403.57 see location.
         4. Need submission to identify the actual location.
     12. CID 4516 (MAC)
         1. Currently assigned to Mark RISON
         2. Need a submission or will be rejected with Insufficient detail.
     13. CID 4519 (MAC)
         1. Review Comment
         2. Review 1827.54 for cited text.
         3. Discussion on retransmit limits.
         4. Proposed Resolution: Accept.
         5. No objection - Mark Ready for Motion
     14. CID 4529 (MAC)
         1. Review Comment
         2. Suggestion to have discussion online.
  2. **Adjourned at 6:01 ET**

**References:**

April 21:

1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0535-05-000m-2020-april-july-teleconference-agendas.docx>
2. <https://mentor.ieee.org/802.11/dcn/20/11-20-0308-00-000m-2020-march-tgmd-agenda.pptx>
3. <https://mentor.ieee.org/802.11/dcn/19/11-19-2156-07-000m-revmd-sponsor-ballot-comments.xls>
4. <https://mentor.ieee.org/802.11/dcn/20/11-20-0446-00-000m-assorted-comment-resolutions.docx>
5. <https://mentor.ieee.org/802.11/dcn/20/11-20-0446-01-000m-assorted-comment-resolutions.docx>
6. <https://mentor.ieee.org/802.11/dcn/20/11-20-0621-00-000m-resolutions-to-cid4022-and-cid4023.docx>
7. <https://mentor.ieee.org/802.11/dcn/20/11-20-0621-01-000m-resolutions-to-cid4022-and-cid4023.docx>
8. <https://mentor.ieee.org/802.11/dcn/19/11-19-1564-03-000m-originator-block-ack-state.docx>
9. <https://mentor.ieee.org/802.11/dcn/19/11-19-1562-04-000m-all-sta-crs-mcs-negotiation.docx>
10. <https://mentor.ieee.org/802.11/dcn/20/11-20-0516-01-000m-cr-mscs-and-cid4158.docx>

April 22:

1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0535-06-000m-2020-april-july-teleconference-agendas.docx>
2. <https://mentor.ieee.org/802.11/dcn/20/11-20-0308-00-000m-2020-march-tgmd-agenda.pptx>
3. <https://mentor.ieee.org/802.11/dcn/20/11-20-0247-03-000m-initial-sb-proposed-resolutions-for-bp-comments.doc>
4. <https://mentor.ieee.org/802.11/dcn/19/11-19-2163-14-000m-resolutions-for-some-initial-sa-ballot-comments-on-11md-d3-0.docx>
5. <https://mentor.ieee.org/802.11/dcn/19/11-19-2163-15-000m-resolutions-for-some-initial-sa-ballot-comments-on-11md-d3-0.docx>
6. <https://mentor.ieee.org/802.11/dcn/20/11-20-0629-00-000m-proposed-resolutions-for-cids-related-to-the-date-of-publication-of-the-references-in-mib.docx>
7. <https://mentor.ieee.org/802.11/dcn/20/11-20-0629-01-000m-proposed-resolutions-for-cids-related-to-the-date-of-publication-of-the-references-in-mib.docx>
8. <https://mentor.ieee.org/802.11/dcn/20/11-20-0629-01-000m-proposed-resolutions-for-cids-related-to-the-date-of-publication-of-the-references-in-mib.docx>
9. <https://mentor.ieee.org/802.11/dcn/20/11-20-0270-08-000m-resolutions-for-some-initial-sa-ballot-comments-on-11md-d3-0-part-ii.docx>
10. <https://mentor.ieee.org/802.11/dcn/20/11-20-0371-02-000m-resolution-for-cmmg-mac-related-cids-4217-4218-and-4250.docx>
11. <https://mentor.ieee.org/802.11/dcn/20/11-20-0543-02-000m-privacy-for-password-identifiers.docx>

April 23:

1. <https://mentor.ieee.org/802.11/dcn/20/11-20-0535-07-000m-2020-april-july-teleconference-agendas.docx>
2. <https://mentor.ieee.org/802.11/dcn/20/11-20-0308-00-000m-2020-march-tgmd-agenda.pptx>
3. <https://mentor.ieee.org/802.11/dcn/20/11-20-0645-00-000m-revmd-sb1-phy-cr-cids-4232-4233-4448-4459-4548.docx>
4. <https://mentor.ieee.org/802.11/dcn/20/11-20-0648-00-000m-sa-ballot-1-cids-4742-4741-4740-resultcode-valid-value-format.docx>
5. <https://mentor.ieee.org/802.11/dcn/20/11-20-0647-00-000m-sa-ballot-1-cid-4389-and-4390-two-staaddress-parameter.docx>
6. <https://mentor.ieee.org/802.11/dcn/20/11-20-0639-00-000m-selected-rison-discussion-cids.xlsx>
7. <https://mentor.ieee.org/802.11/dcn/20/11-20-0367-02-000m-resolution-of-cid-4444.docx>